REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Official Action dated December 29, 2006. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 8-13 are under consideration in this application. Claim 8 is being amended to more particularly point out and distinctly claim the subject invention.

The claims are being amended to correct formal errors and/or to better recite or describe the features of the present invention as claimed. All the amendments to the claims are supported by the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Formality Rejection

Claims 8-13 were rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. As known to one skilled in the art, a data center is a facility used to house mission critical computer systems and associated components, and as shown in Fig. 1, the user's facility has at least one computer. Claim 8 is being amended to recite that each of the data center and the user's facility has at least one computer to provide machines to overcome the 101 rejection. Accordingly, the withdrawal of the outstanding informality rejection is in order, and is therefore respectfully solicited.

Prior Art Rejection

Claims 8-13 were rejected under 35 U.S.C. § 102(e) as being anticipated by Murray et al. (US 2002/0168664). This rejection has been carefully considered, but is most respectfully traversed.

The data search system of the invention (for example, the embodiment depicted in Fig. 1; pp. 8-11), as recited in claim 8, comprising a data center 13 for distributing data and a user's facility 17 for receiving the data distributed from the data center 13 to use the data for a data search. The data center 13 includes at least one computer which comprises means for downloading data from a plurality of databases 11; means for generating *link information*

- 4 -

among the plurality of databases that follows *an origin of the downloaded data*(p. 11, lines 16-17); means for generating detailed information (Fig. 3) of each data entry, based on the downloaded data; means for generating data for homology search of said each data entry, based on the downloaded data; a route table (e.g., Fig. 5) defining a data search rule for searching data of interest in the databases 11; and means for distributing to the user's facility: the link information, the detailed information of said each data entry, the data for homology search (i.e., "index information" of the invention defined in p. 8, last paragraph), and the route table. The user's facility 17 includes at least one computer which comprises: means for conducting the data search using the link information, the detailed information of said each data entry, the data for homology search, and the route table distributed from the data center.

As recited claim 12, the route table stores the data search rule which restricts searches only along links following an origin of said data of interest as defined therein (p. 11, 2nd paragraph). Databases 61 and 63 correspond to each other as indicated by a link 62 connecting therebetween, assuming that a database 61 was recently created based upon the data stored in the database 63. Only such link information that follows the origin of the data (63 -> 61) of interest is utilized to search the data B in the database 63 linked from data A database 61. As another example, as the data of origin of D3 flows from C1 which in turn flows from A1. The data search follows from databases A-> C-> D (*"As a result, gene data D3 in the database D that corresponds to gene data A1 in the database A can be acquired."*), but not to database B. The Database B is relevant only to Database D since the data origin relationships between B1 <-> D1 and B2 <-> D2 (p. 11, last paragraph; Fig. 7)

As recited in claim 13, the means for conducting the data search in the user's facility conducts the data search without following links of routes which are not defined in the search rule following an origin of said data of interest, even if there is other link information between said each data entry defined in the route table (such as link information rated to another database 64; p. 11, 2nd paragraph).

The data center 13 accesses public databases to create index information including link information, detailed description information, data for homology searching, etc. to send to the user's facility the index information together with a route table storing suitable search orders of the databases. The user's facility utilizes the index information and the route table sent from the data center to conduct the data search. According to the present invention, the user's facility does not need to access the public databases directly to conduct the data search. Therefore, the problems related to a data collecting time, a network occupation, and

disconnection of a network line and so on can be solved. In addition, the data search is carried out in the proper order based on the search order stored in the route table, the search speed and the search accuracy can be increased. As such, users can eliminate troublesome tasks such as putting unnecessary data in order by themselves.

Most importantly, "by *limiting the link between the databases, the acquisition of unwanted data that produces noise, as described with reference to Fig. 22, can be limited, so that only appropriate data can be acquired* (p. 11, last 2 lines)" according to the present invention.

In contrast, the alleged link information of Murray (p. 4, lines 3-5 of the outstanding Office Action) is about pathways. The term pathway generally means a metabolic reaction pathway which is a series of reaction paths for configuring metabolism, such as various types of amino-acid biosynthesis pathways, glucose decomposition pathways and so on,. creating index information for estimating a new pathway by finding correlations and networks among genes. Murray's pathway (e.g., 402 in Fig. 12; [0127]) is related to gene functions or interactions between different genes ([0013]), which has nothing to do with "an origin of said data of interest" according to the present invention.

Fig. 12 of Murray shows correlations among genes. In the present invention, link information shows which entry of a database an entry in another database links to, each database including one or more entries as shown in Fig. 7. Fig. 7 of the present invention is completely different from Fig. 12 of Murray.

Murray creates index information to <u>estimate</u> a new pathway by finding correlations and networks among genes. On the other hand, the determination of the origin of data of interest according to the present invention is straight-forward and unambiguous (rather than "estimating" as in Murray), since data is either copied or not copied from a suspect source. Murray's index data is essentially different from the link information of the present invention which includes links following an origin of said data of interest.

Since Murray does not concern links following an origin of said data of interest, Murray does not "restrict searches only along links following an origin of said data of interest (claim 12)" or "search without following links of routes which are not defined in the search rule following an origin of said data of interest, even if there is other link information between said each data entry defined in the route table (claim 13)", as in the present invention. Murray's operation is similar to the conventional technique whose problems are addressed in accordance with the present invention. According to Murray, there still remain

problems related to data collecting time, network occupation and disconnection of a network line, and users having to put unnecessary data in order by themselves, all of which are very troublesome.

In essence, the link information of the present invention is different from the route table of the present invention which stores the data search rule which restricts searches only along links following an origin of said data of interest as defined therein. However, it appears that the Examiner (p. 4, lines 10-12 & 14-15 of the outstanding Office Action) corresponded the alleged route table 480, 490 in Murray's Fig. 13 and steps 362-363 in Murray's Fig. 11 to the alleged link/pathway information of Murray.

The alleged route table 480 in Murray's Fig. 13 is a PathwayModel table storing general comments on the pathway 485 (Comment), and the alleged route table 490 in Murray's Fig. 13 is a PathwayModel2Interaction table which defines the interactions of a pathway model using the PathwayModellD 481 ([0143]). These tables are essentially different from the route table (e.g., Fig. 5) of the present invention which stores the data search rule that restricts searches only along links following an origin of said data of interest.

The steps 362-363 are provided to create Murray's Fig. 12 by generating a directed graph of indicators ("*utilizing interaction scores, multiply-referenced interactions, and gene-expression information of edge values*" in Box 362 of Fig. 11) and visualizing the directed graph (Fig. 11; [0139]), which are essentially different from the route table (e.g., Fig. 5) of the present invention that stores the data search rule which restricts searches only along links following an origin of said data of interest.

Applicants contend that Murray fails to teach or suggest each and every feature of the present invention as recited in independent claim 8. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.
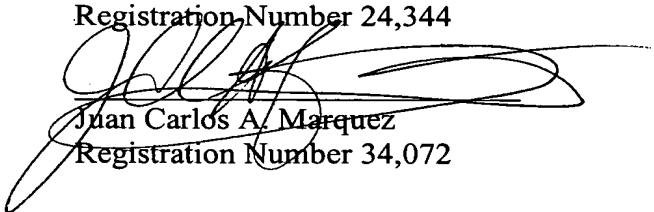
Conclusion

In view of all the above, clear and distinct differences as discussed exist between the present invention and the prior art references upon which the rejections in the Office Action rely, Applicant respectfully contends that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and telephone number indicated below.

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